REMARKS

Claims 1-19 are pending in the application. It is gratefully acknowledged that the Examiner has objected to Claims 10-13 and 19 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. The Examiner objected to Claims 14-16 based on informalities. The Examiner rejected Claims 16-19 under 35 U.S.C. 112, second paragraph. The Examiner has rejected Claims 1 and 5 under 35 U.S.C. §102(b) as being anticipated by Shen et al. (U.S. Patent 5,640,698). The Examiner has rejected Claim 1 and 16 under 35 U.S.C. §102(b) as being anticipated by Chalmers (U.S. Patent 5,375,146). The Examiner has rejected Claims 2 and 6-8 under 35 U.S.C. §103(a) as being unpatentable over Shen et al. in view of Ostman (U.S. Patent 6,061,385). The Examiner has rejected Claims 2-4, 9, 17 and 18 under 35 U.S.C. §103(a) as being unpatentable over Chalmers in view of Ostman (U.S. Patent 6,061,385).

Regarding the objections to Claims 14 and 15, it was determined that their dependencies were incorrect. Claim 14 should depend from Claim 11, and Claim 15 from Claim 10. Claims 14 and 15 have been amended accordingly. Based on at least the foregoing withdrawal to the objections to Claims 14 and 15 is respectfully requested.

Regarding the objection to Claim 16, "the second IF signal" has been amended to read "a second IF signal". Based on at least the foregoing withdrawal to the objection to Claim 16 is respectfully requested.

Regarding the rejection of Claim 16 under §112, second paragraph, "it" has been amended to read "the cosine part and the sine part". Based on at least the foregoing withdrawal of the rejection to Claim 16 is respectfully requested.

Regarding the rejections of independent Claims 1 and 5, under §102(b), the Examiner states that Shen et al. anticipates all of the elements of the claims. Shen et al. discloses radio frequency signal reception using frequency shifting by discrete-time sub-sampling down-conversion. A DDC of

the present invention converts an inputted digital IF signal into the first IF signal in a first mixer (a real mixer) by performing operation of a real signal, the first IF signal goes through a decimation filter and a second IF signal (a complex number) is outputted in a second mixer (a real-complex mixer) by multiplying the signal outputted from the decimation filter by a complex local signal. Claim 1 has been amended to recite "multiplying the digital signal by a real signal" and "multiplying the output of the decimation filter by a complex local signal"; and, Claim 5 has been amended to recite "multiplying the digital signal by a real signal" and "multiplying the first IF signal by a complex local signal". Based on at least the foregoing withdrawal of the rejections to independent Claims 1 and 5 is respectfully requested.

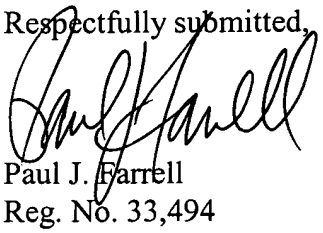
Regarding the rejections of independent Claims 1 and 16, under §102(b), the Examiner states that Chalmers anticipates all of the elements of the claims. Chalmers discloses a digital frequency conversion and tuning scheme for microwave radio receivers and transmitters. Again, a DDC of the present invention converts an inputted digital IF signal into the first IF signal in a first mixer (a real mixer) by performing operation of a real signal, the first IF signal goes through a decimation filter and a second IF signal (a complex number) is outputted in a second mixer (a real-complex mixer) by multiplying the signal outputted from the decimation filter by a complex local signal. Claim 1 has been amended to recite "multiplying the digital signal by a real signal" and "multiplying the output of the decimation filter by a complex local signal"; and, Claim 16 has been amended to recite "multiplying the digital signal by a real signal" and "multiplying the first IF signal by a complex local signal". Based on at least the foregoing withdrawal of the rejections to Claims 1 and 16 is respectfully requested.

Independent Claims 1, 5 and 16 are believed to be in condition for allowance. Without conceding the patentability per se of dependent Claims 2-4, 6-9, 14, 15, 17 and 18, these are likewise believed to be allowable by virtue of their dependence on their respective amended independent claims. Accordingly, reconsideration and withdrawal of the rejections of dependent Claims 2-4, 6-9, 14, 15, 17 and 18 is respectfully requested.

Accordingly, all of the claims pending in the Application, namely, Claims 1-19, are believed

to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicant's attorney at the number given below.

Respectfully submitted,



Paul J. Farrell
Reg. No. 33,494
Attorney for Applicant

DILWORTH & BARRESE
333 Earle Ovington Blvd.
Uniondale, New York 11553
Tel: (516) 228-8484
Fax: (516) 228-8516

PJF/MJM/dr